

**SNS Ring Vacuum Systems**  
**Ion Pump & Gauge Controller Set Point and RS-485 Connections**

**Table 1. Ion Pump Controller RS-485**

The IPC RS-485 connector is a 9-pin D-sub female connector. The cable requires two pair.

<u>Pin</u>	<u>Description</u>
1, 9	Data -
2, 3	Data +
5	Signal Ground

**Table 2. Ion Pump Controller Set point**

Female 37-pin D-sub Remote I/O connector on ion pump controller rear panel. Cable requires 37-pin male D-sub connector, and two pair or 4 conductors. One set point cable is required for each HV output used (typically two per controller). 24 Vdc is supplied from the PLC DC terminal, routed through the ion pump controller set point relay normally open (N.O.) contacts, and returned to the PLC input terminal.

<u>Pin</u>	<u>Description</u>	<u>Wired to</u>
8	Set Point 1 N.O.	PLC IB16I IFM IN
27	Set Point 1 Common	PLC IB16I IFM DC
11	External Interlock Positive	TBD
30	External Interlock Negative	TBD

**Table 3. Gauge Controller RS-485**

Female and male 9-pin D-sub RS-485 Connectors on gauge controller rear panel. Cable has 2-pair. One end is terminated in male 9-pin D, the other is female, 9-pin D, the connections are straight-through.

<u>Male Connector</u>	<u>Female Connector</u>	<u>Description</u>
1	1	Data' (TX)
9	9	Data (RX)
5	5	Signal ground

**Table 4. Gauge Controller Set point**

Male 15-pin D-sub Accessory Connector on gauge controller rear panel. Set point cable requires 15-pin female, D-sub connector. The cable has 4 pair or 8 conductors. One set point cable is required for each gauge controller. The IFM is connected to an IB16I DC input module. The specific input module inputs are TBD. 24 Vdc is supplied from the PLC DC terminal, routed through the gauge controller set point relay normally open (N.O.) contacts, and returned to the PLC input terminal.

The following pins are used:

<u>Pin</u>	<u>Description</u>	<u>Wired to</u>
2	Set point 1 N.O.	PLC IB16I IFM IN
9	Set point 1 Common	PLC IB16I IFM DC
10	Set point 2 N.O.	PLC IB16I IFM IN
11	Set point 2 Common	PLC IB16I IFM DC
13	Set point 4 N.O.	PLC IB16I IFM IN
14	Set point 4 Common	PLC IB16I IFM DC
7	Set point 5 N.O.	PLC IB16I IFM IN
15	Set point 5 Common	PLC IB16I IFM DC